

# BLUE-GREEN-GREY PROJECTS DART HATCHER STATION COMMUNITY GARDEN



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**BLUE-GREEN-GREY PROJECTS**  
**DART HATCHER STATION COMMUNITY GARDEN**

**SCOPE OF WORK**

Location: **4527 SCYENE RD, Dallas 75210**

**Project Description**

The purpose of the Hatcher Station Community Garden pilot project is to provide Dallas Area Rapid Transit (DART) with a programmatic approach to convert small, unused parcels in DART-owned rights of way into productive community gardens for local residents. The area surrounding the site has been designated as a “food desert” by the USDA and presents an ideal opportunity to see the impact a community garden could have on an economically depressed area. The project site is also 250 feet away from the Bertrand Neighborhood Pop-Up Market, which will provide local gardeners a nearby venue to sell their produce.

The funds for the Blue-Green-Grey pilot project will be used at the Hatcher Station Community Garden to develop a siting and maintenance process, install the infrastructure for irrigation and lighting, and provide necessary startup materials.

**Study Area**

The project site is a two-parcel plot of land totaling 15,760 square feet, located at 4527 Scyene Road east of Downtown Dallas and is 250 feet from Hatcher Station, which serves DART’s Green Rail Line. See attached Site Map.

**Tasks and Deliverables**

DART will perform the following list of tasks and sub tasks and will produce the deliverables and results listed for each task. The Budget Spreadsheet attachment should be filled out with the anticipated project costs for each Task. The North Central Texas Council of Governments (NCTCOG) will review the project deliverables and provide feedback at key milestones, conference calls or meetings.

### ***Task 1: Project Management (Complete)***

- a. After the Notice to Proceed is issued, conduct a project kickoff meeting to review project goals, scope of work, methodology and schedule/timeline.
- b. Conduct periodic conference calls with NCTCOG staff.
- c. Complete billing and progress reports.

### ***Task 2: Site ID and Preparation***

- a. Develop the process and criteria for identifying potential community garden sites.
- b. Develop a process and checklist for preparing the community garden, including access to water and access to the site.
- c. DART will collect readily available base data, including but not limited to relevant existing/future land use data, circulation diagram, passenger counts for the Hatcher Station, current/projected local population and any other data sufficient to understand the existing and future conditions of the project site. DART will document the best practices used to lay out and design the community gardens.
- d. Deliverables:
  1. Maps, charts and graphs to display the results of the existing conditions analysis.
  2. Memo summarizing existing conditions in the study area.
  3. Memo summarizing best practices in successful community garden design; including a section on quantities and qualities of the necessary start-up materials (tools, soils, organic materials, seeds, etc.). (SEE Addendum T2d3)
  4. One illustrative site plan of proposed design, including irrigation/lighting layouts specific dimensions and quantities of all infrastructure improvements and start-up materials.
  5. One as-built site plan of the project when it has been completed.

### ***Task 3: Infrastructure Installation***

- a. Develop inventory of needed infrastructure to establish a community garden plot at Hatcher Station and other DART-owned properties.
- b. Purchase materials used to establish community gardens at Hatcher Station.
- c. Install all infrastructure and amenities necessary to establish the community garden.
- d. Deliverables:
  1. Infrastructure inventory and installation
  2. List of materials and quantities used to establish the community garden.
  3. Operational community garden.

### ***Task 4: Operations and Maintenance***

- a. Develop process for identifying partners who will agree to maintain the community garden for a pre-determined period of time.
- b. Establish vehicle (ILA, contract, memo) to formalize maintenance agreement(s).
- c. Execute agreement with partners for Hatcher Station Community Garden.
- d. DART will develop a maintenance management plan to be incorporated into the existing DART maintenance plan.

- e. The plan would include, but is not limited to, topics such as:
  - a. Managing excess organic plant material generated on site (e.g., composting, recycling)
  - b. Removing invasive species to prevent transport to other sites.
  - c. On-site water treatment and re-use.
  - d. Watering schedules for gardens.
  - e. Closedown and cleanup of site for winter season.
- f. Deliverables:
  - 1. Maintenance agreement template.
  - 2. Executed agreement with partners for the Hatcher Station Community Garden.
  - 3. 'Operations and Maintenance Plan' for both plant material and equipment.

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***PROJECT DELIVERABLES***

***ADDENDUM***

***TASK 1: Complete***

## **TASK 2:**

T2a:

### **DART Community Gardens Program**

Through its acquisition of railroad right of way (ROW) and construction projects over the years, DART has accumulated a number of small parcels of land that are currently not needed by DART and/or for which a market does not exist. Some of these parcels are located in or adjacent to residential areas in economically depressed areas without access convenient access to grocery stores or fresh fruits and vegetables, often known as 'food deserts.' In 2016, DART began evaluating the possibility of putting these parcels to productive use through a mechanism that would allow residents to use the parcels as community gardens; thereby providing the residents the availability of fresh produce.

The community gardens project provides value to DART by preventing parcels that are not currently being used from going to waste. By allowing communities to utilize the land, DART is preventing the parcels from becoming overrun with litter and illegal dumping and also provides DART with an outside entity to help maintain the property while simultaneous aiding the community in their access to fresh produce.

DART owns numerous parcels along rail corridors that are not currently needed and for which there is no market. Of the parcels located in or adjacent to residential areas, DART first offered these parcels to adjacent landowners for purchase. Working with the DART Real Estate Department, the remaining parcels not currently under negotiation for sale were surveyed to determine which would be the best for a pilot community garden. The internal criteria established for the best parcel for pilot garden consisted of the size of the parcel, the need for access to fresh fruits and vegetables, the location of the garden in proximity to transit, and finally potential neighborhood involvement.

After surveying potential locations, DART determined the parcel located at 4527 Scyene Road in Dallas would serve as the best location for a pilot community gardens project. The parcel on Scyene is large enough to provide the space needed for a community garden as it contains property from two residential plats utilized during construction of the Green Line. The parcel is also located approximately 1/10 of a mile from Hatcher Station making it easily accessible to DART patrons. Finally, the parcel is located in a residential area that has previously shown interest in a community garden program through the participation of the Bertrand Neighborhood Association and the immediately adjacent Parkland Clinic.

DART conducted a visual onsite assessment of the parcel in order to determine what improvements would need to be made in order to advance the project. The parcel required approximately 1,290 ft<sup>3</sup> of concrete removed, other debris removal, removal and replacement of a fence and other materials totaling approximately \$69,000 in capital costs.

Over the course of two years DART participated in several group meetings, hosted by Parkland Hospital, that included entities such as Parkland, DISD, Frazier Revitalization, the Bertrand Neighborhood Association, SMU,

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Big Tex Farms, the Association of Persons Affected by Addiction (APAA), and others over the course of two year to identify the best organization to operate the pilot garden. Initially Parkland was approached to operate and maintain the garden but was unable to do so due to financial and time constraints. Finally, the community partners working with DART recommended Get Healthy Dallas be the entity to perform the installation and initial operation of the garden, as many of the community partners initially involved in the project are also involved with the nonprofit, in addition to the fact that Get Healthy Dallas has a proven track record of instituting successful community gardens across the Southern Sector of Dallas. Get Healthy Dallas applied for and was granted a license agreement to install, operate and maintain a community garden on the parcel of property identified by DART for its community garden pilot project in September 2018.

As DART looks to expand its community garden pilot program, we will continue to work with our Service Area Cities, businesses, foundations, nonprofit organizations and individuals to participate the ongoing support of the program.

T2b: Site Preparation Checklist

- Soil Prep
- Lumber / Boxes
- Mulch
- Seedlings
- Water Prep & Use
- Miscellaneous equip & tools
- Project mgt
- Training
- Electricity / Solar Panel planning
- Greenhouse plan

T2c: Annual Ridership Information from Hatcher Station Light Rail and Bus Connections

Hatcher Station	FY 19		Total
	Rail	Bus	
	238,590	42,969	281,559

T2d1 – T2d2: Existing conditions analysis provided by data from the NCTCOG

T2d3: Memo summarizing best practices in successful community garden design; including a section on quantities and qualities of the necessary start-up materials (tools, soils, organic materials, seeds, etc.).



## ***Memorandum***

### **Best practices in successful community garden design**

#### ***GARDEN SPECIFICS***

Whether large or small, here are a few things to consider when choosing your garden site.

**Sunlight:** Most flowers and vegetables need a minimum of six to eight hours of full sun. Check your future garden site for sun exposure at different times of the day and, if possible, in different seasons. Keep track of shady spots. Use them for shade gardens—great observation areas and teaching areas on hot, sunny days.

**Water:** Watering the garden will be important for a good harvest and should be easy. The garden should be close to a water faucet, so water is easily accessible to your plants. There are various systems you can consider: drip irrigation, soaker hoses, or watering cans. Be sure to consider the importance of conservation of resources in your planning. Use mulch to help the soil retain moisture. In most school gardens, we are recommending a drip irrigation system. Your County Extension Agent/Horticulture can assist with the design. A typical drip irrigation system for a 4x8 raised bed is \$125.00 (See more about water meters below).

**Location Advice:** Get a professional opinion on the garden desired location. Ideally, you should consult a local Master Gardener or agricultural extension member, or even ask your City if they have an expert, with whom you can verify that your location makes sense in terms both environmental quality and urban geography. Assess the availability of water and electricity.

**Raised beds (Garden Boxes or Grow Boxes):** Our native blackland prairie soils do not lend themselves well to in ground gardening. Raised beds are the recommended method for planting. Various materials can be used to make the raised beds. Consult with your County Extension Agent/Horticulture for recommendations and cost.

**Ideal Garden Box Size** - 32" Lgth. X 26" Wdth. 15" Depth with the garden box platform equaling the length and width of your garden box. Garden columns (stacked box frames that can create a stack or column within which to grow) are normally made with 1" x 8" or 2" x 10" regular lumber. For garden box sizes, consider who will be tending the garden. when considering your desired garden box size. For example, will they have bending or mobility problems or are not very tall yet (elderly and children)?

**Weed Blocker** Is suggested to be placed on the ground or platform surface to prevent weeds from taking control of your garden grow boxes and vegetables or flowers. We used silage tarps, that came with stakes to anchor the tarp – nontoxic and environmentally friendly technique.

**Drainage:** Both slope and soil type affect drainage. Avoid steep slopes; if that's not possible, consider terracing or raised beds. Don't plan a garden in a low spot where puddles form in wet weather.

**Accessibility:** If your garden is a short walk from the neighborhood, there will be more involvement than if the site is a long distance from the participants. A garden close to the neighborhood makes it more convenient and more visible on a regular basis.

**Security:** If possible, locate your garden within sight of neighbors. Fences and natural borders of plants, if they don't obstruct visibility and hide intruders, provide security. Make use of existing fences, trees, and hedges in selecting your site.

**Visibility:** Gardens always add beauty to the grounds. Try to integrate your garden with the existing landscape, but don't hide it. "Out of sight, out of mind" can apply to gardens that aren't in a central, visible location.

**Choose Your Garden Layout:** depending on space available, you can create grow boxes that are dependent on soil quality and can be easily moved if necessary. No ground tillage will be required with grow box approach.

#### LAND USE CONSIDERATIONS:

##### A. Property Ownership (If you do not own the property)

Ownership of the property for a community garden or urban agriculture project must be established in order to obtain permission to use the property for this purpose.

If ownership is known and the landowner is a participant in the urban agriculture project, then the project can proceed. If ownership is not known, the owner must be found and contacted to obtain formal permission for use of the land.

Land ownership information can be obtained from the Dallas County Appraisal District ([www.dcad.org](http://www.dcad.org)) by searching for the property address. The owner can then be contacted via the address listed on the Appraisal District record. If an owner is not easily contacted, another piece of property might need to be considered.

##### B. Negotiating Use of Land

In almost every possible situation, it is recommended that a written agreement be in place between the landowner and the group or individual creating the urban agriculture project, even if these two parties are a church and a group within the church. Having a written agreement, however simple, will prevent problems from occurring later. This is not because trouble is expected but so that a clear understanding is established for all involved.

Written agreements can be as simple as a Memorandum of Understanding (MOU) that states that the landowner is allowing the group or individual to use the specific piece of land for the specific purpose. Any additional limitations, expectations, or possibilities can be listed in the MOU. Then representatives from each party sign the document. These written agreements can be as formal as a lease drawn up by an attorney. While a formal lease is not required by the City of Dallas, it may be the best document to have in place if the landowner is not a participant in the urban agriculture project. A rental agreement is another option, especially when money is paid to the landowner at an agreed upon schedule.

If an agreement is difficult to negotiate, consider a different piece of land. Liability is another reason to have an agreement in place. The agreement should outline who will hold insurance on the property and for which purpose.

### C. Zoning

Zoning is the way land use is defined and regulated. The City of Dallas has many different zoning types within the city code. The two main divisions are Residential zoning and Commercial zoning. Within each, there are multiple subdivisions. Each subdivision will have slightly different rules about setbacks, fencing, and other details.

Zoning is the most important item that will affect how you farm your selected property. For instance, all zoning types can be used for urban agriculture, but depending on the exact zoning, rules for buildings and fences and parking will vary.

For the purpose of an urban agriculture project, the main difference between Residential and Commercial zoning is that in Commercial zoning designations sales of fruits and vegetables raised are allowed while in Residential zoning, on-site sales is not allowed.

*Additional potential licenses and regulations* (florist for cut flowers, eggs) Cut flowers – For commercial sale (any sale at a public location) of flowers, a florist permit may need to be obtained. These rules can be found at the Texas Department of Agriculture website.

*Insurance* - It is strongly recommended that urban gardens should have some type of liability coverage for any accidents that might occur. In addition, product liability is needed if produce is to be sold to the public.

*Community garden resources* – Many resources for community gardening are available on the Internet. One of the best places to start is the American Community Gardening Association website (<https://communitygarden.org>). As this guide develops, other resources will be added.

### D. Obtaining the Certificate of Occupancy (CO)

What's needed for a Certificate of Occupancy –

The Certificate of Occupancy (CO) lets the City know how you are using your particular piece of property and help you know what is allowed with in that use. Remember: the CO will be needed if you are starting a garden on a vacant piece of land or if you are changing the use of the property such as with a commercially zoned property. Gardens that are on the property of a church or other business or community facility will not need their own CO.

To obtain a CO, visit the City's municipal offices at 320 E. Jefferson Blvd. in Oak Cliff, room 118. Their hours are 8:00 to 4:30, Monday through Friday. First, visit the Zoning office. Give the address of the lot you intend to farm, and the person in zoning will go over the zoning regulations for the area in which the lot is located and go over any restrictions with you. Certain areas may have additional restrictions or existing overlays, such as in PD 380 in the Bishop/Davis area or PD 595 in South Dallas/Fair Park. For the CO, a map of the site will be needed. Currently, an official plat map of the lot will be required. Copies of a plat are not expensive. Some lack of clarity exists in whether urban gardens will be required to re-plat the land. Since this can cost a few hundred dollars, a compromise solution will be sought to make it affordable for urban gardens to meet the needs of the city. The CO takes 2-4 weeks to process and to be issued. The cost is \$280.

\*\*Regardless of the plat map issue, an urban garden will be required to provide a site map, drawn to scale, that shows the layout for the planned garden. These site maps should identify where growing beds, walkways, any shade structures, storage sheds or other buildings, and compost piles will be located on the lot. This is something that a garden must decide on before moving any further through the process.

#### E. Water Meters –

The office to visit about a water meter is in the same building at 320 E. Jefferson Blvd as the Zoning office. They will pull a map of the neighborhood, which shows where the water mains are located.

To find out if a water line needs to be run to the property, and cost of a water meter, call 214670-8213 (Water Department Operations). A water meter must be installed by a utility's contractor hired by the garden leaders. Costs are estimated to range from \$1800 to \$8,000. More information regarding water meter installation will be added to this section in future versions.

Irrigation Plan: Depending on the size and layout off your garden, the City of Dallas may require an Irrigation Plan.

[https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/DCH%20documents/pdf/BI\\_Irrigation%20System%20Certificate\\_10-22-2018.pdf](https://dallascityhall.com/departments/sustainabledevelopment/buildinginspection/DCH%20documents/pdf/BI_Irrigation%20System%20Certificate_10-22-2018.pdf)

[https://www.tceq.texas.gov/drinkingwater/irrigation/irr\\_helpres.html](https://www.tceq.texas.gov/drinkingwater/irrigation/irr_helpres.html)

\*\*\*NOTE: Wait until just before planting and operations to order a water meter – to have one put in much ahead of time may mean the meter is tampered with or you will be paying for someone who comes and helps him/herself to your water!

#### F. Existing Structures on Land & Accessory Use

If there is an existing structure on a piece of property, different rules apply, and the Urban Garden ordinance may not apply. If there is NO existing structure on the property, see Section 2 for

information. An existing structure is a building - such as a house, church, school, library, warehouse, etc – that is in use.

Accessory use:

Accessory use is the term used when the garden or urban food project is on land adjacent to an existing structure, whether commercial or residential. Gardens are allowed as accessory use. Again, recommendations are that a simple written agreement be created between the land owner(s) and the group or individual creating the urban agriculture project.

Land with an existing house:

If the piece of land used for urban food production has a home that is inhabited, the Urban Garden ordinance does not apply. At an occupied home, food production and sales (off-site) are allowed by right. If the house on the land is unoccupied and will not be occupied for residential use with the start of the urban agriculture project, then....

Land with existing multi-family housing:

If the piece of land used for urban food production has a multi-family building or several buildings, such as an apartment complex, that is inhabited, the Urban Garden ordinance does not apply because the food production is considered accessory use.

Land with an existing commercial building:

Commercial buildings are buildings that have been or are being used for commercial businesses. These include, but are not limited to buildings such as stores, warehouses, and gas stations. Churches are also included in the commercial building category. Urban food production is allowed at these sites and considered accessory use.

## **HSCGTF Grow Methods**

The following section contains detail description and explanation of the two grow methods being putting in place at HSCGTF. First the mobile raised Beds System and Second the Row & Swell method.

### **Mobile Raised Bed Method**

A raised garden bed (or simply “raised bed”) is a large planting container that sits above ground and is filled with soil and plants. The style we will use can be seen in the picture below are small (26” x 32” X 15 “h ) that hold (6 cubic feet of) soil most important they are mobile.



#### **Raised bed advantages:**

- Garden chores are made easier and more comfortable thanks to less bending and kneeling. Save your knees and back from the strain and pain of tending the garden.
- Productivity of plants is improved due to better drainage and deeper rooting.
- Raised beds are ideal for small spaces where a conventional row garden might be too wild and unwieldy. Raised beds help to keep things organized and in check.
- Planting in a raised bed gives you full control over soil quality and content, which is especially important in areas where the existing soil is rocky, nutrient-poor, or riddled with weeds.
- Raised beds allow for a longer growing season, since you can work the soil more quickly in the spring in frost-hardened regions, or convert the bed into a cold frame in the fall.
- Fewer weeds are seen in raised beds thanks to the bed being elevated away from surrounding weeds and being filled with disease- and weed-free soil.
- Raised beds allow for easier square-foot gardening and companion planting.

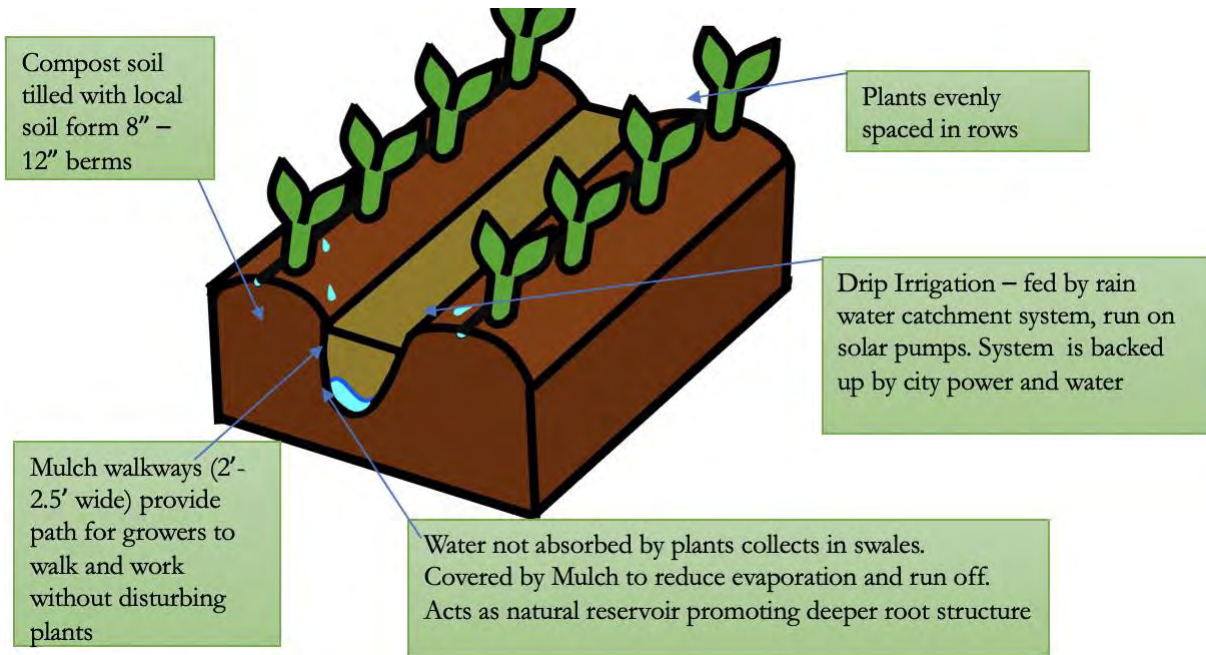
#### **Mobile raised Beds have additional Advantages:**

- Collar design allows for the stacked layers to be folded for easy transport.
- The size means they can fit in truck or car and be put in place in less than half an hour.
- Once a community member has taken a training class at the HSCTF they can have the EXACT same type of box moved into their own backyard (or balcony). These home gardens can feed their family fresh produce from their own box. These home boxes will be supported by the seedling farms at MLK with seasonally appropriate plants.

#### **Row & Swell Method**

The "Row and Swell" is the method tested and recommended by Texas A&M Agri-Life as best suited for the North Texas climate. It takes ancient principles to maximize resources (water, soil, natural fertilizer and compost) in a sustainable way and get the most production out of a very small portion of land.

See diagram below as it best explains the design components, materials and logic beyond each part for the Row & Swell method:



### Systemic Consideration in Method Selection

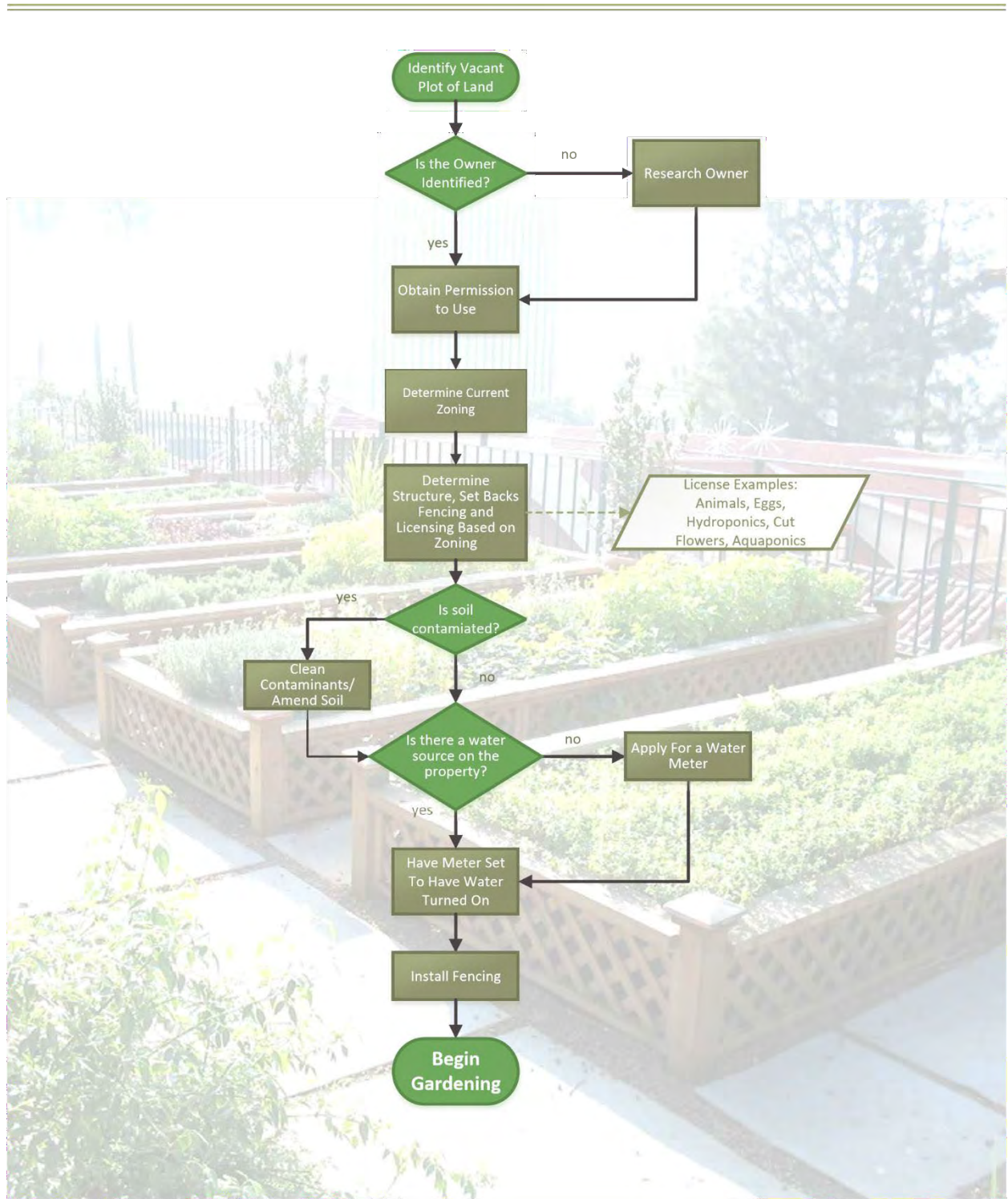
- **Evidence Based Grow Systems-** We like any urban grower does not have resources to make major mistakes, waste materials or to over pay or over use city water, electricity, seed, compost, fertilizer or labor if we are to be economically viable. We rely on our partners at Texas A&M Agri-Life Extension (for inground growing) and Big Tex Urban Farm & Hort Americas for (climate controlled, hydroponic growing) to research and develop the best methods for us to adopt in the field.
- **Rapid Succession Planting** - Rapid succession planting, also known as successive planting, is way to extend your harvest by staggering plantings of crops or planting varieties with staggered maturing dates. The seedling farm MLK can be used to coordinate the system and get jump start growth in the field allowing for quicker maturing dates. Succession planting allows for **Staggered Plantings** when a grower space out plantings of the same vegetable every 2 to 4 weeks. Many vegetables fade after producing their initial crop, setting a heavy yield initially, then smaller and smaller yields throughout the summer. Rather than planting your entire row of beans all at once and having feast or famine, you can plant part of the row at the beginning of

the season and then plant more in about 2 to 4 weeks. A new crop will be continually coming in. As the first plants start to flag, you can replant that area with beans or use it for a different crop. Some crops, like peas, have short growing seasons and the space they were using can be replanted with a later season crop, like eggplant.

- **System Wide Platform-** HSCTF is to be a model garden and training farm its role is to not only producing vegetables but training local growers to become urban farmers. Our goal is garden and training model farm to system that can be replicated with each subsequent garden/farm to use the same methods (with continued R&D) and training so that all growers on the same basic systems and principles.



### Sample Community Garden Building Process





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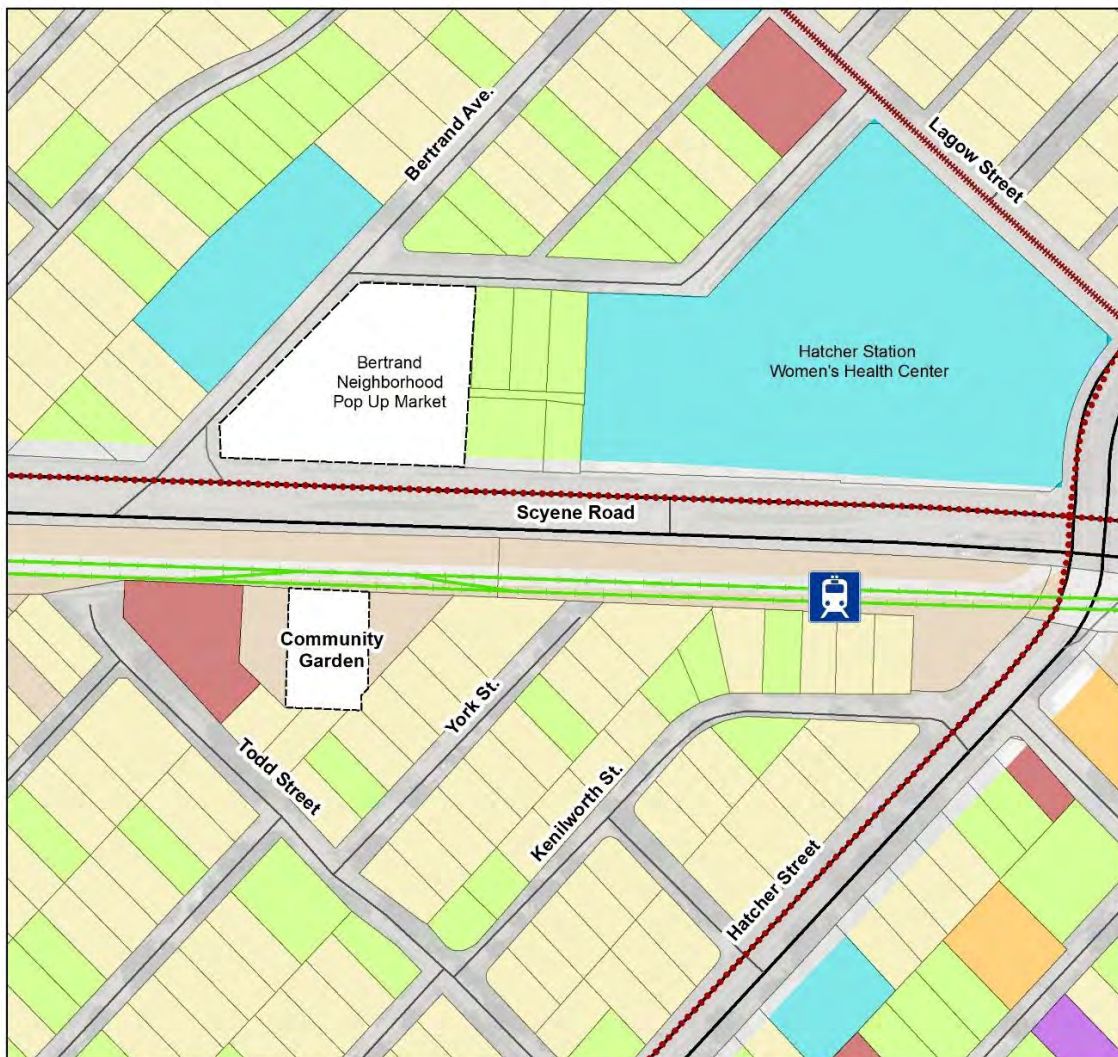
Selected Photos



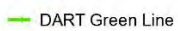


Hatcher Station Garden Location Map

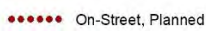
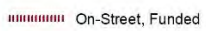
**DART - Hatcher Station Community Garden**



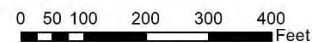
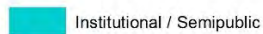
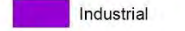
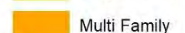
**Legend**



**Community Shared-Use Paths and Bikeways**

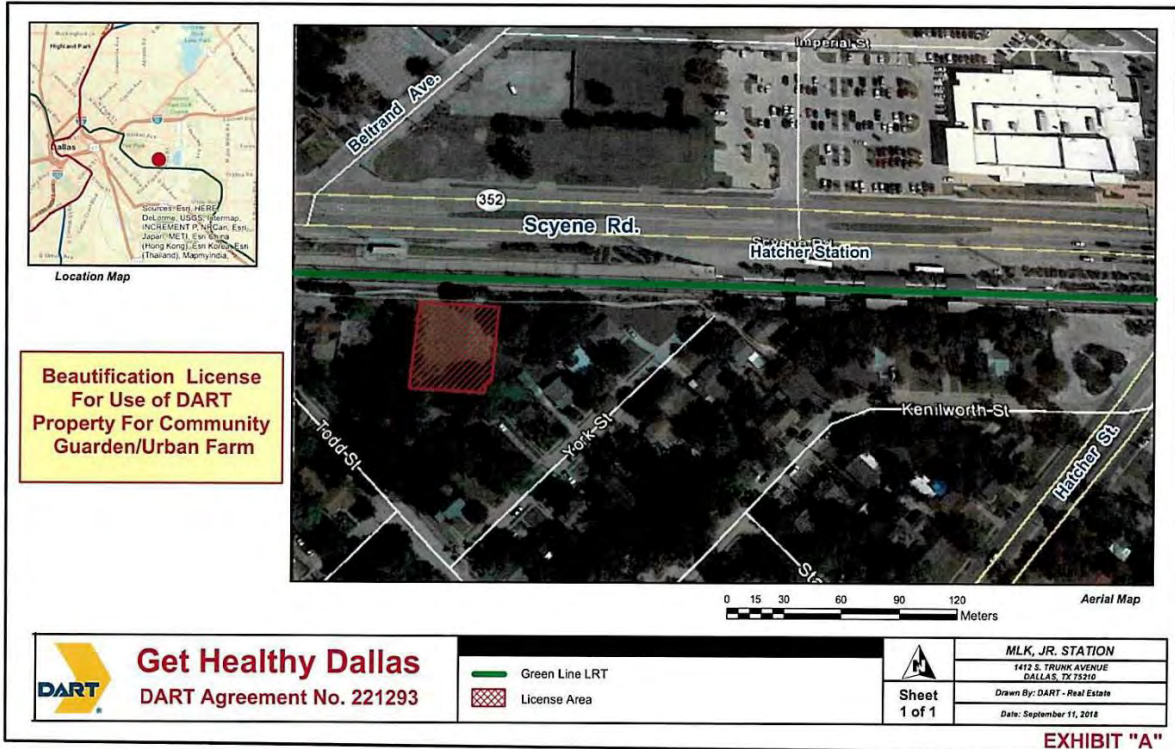


**Landuse**



North Central Texas  
 Council of Governments

### Hatcher Station Garden Location Map 2



Task 3 - I Task 3 - I

***Task 3: Infrastructure Installation***

- a. Develop inventory of needed infrastructure to establish a community garden plot at Hatcher Station and other DART-owned properties.
- b. Purchase materials used to establish community gardens at Hatcher Station.
- c. Install all infrastructure and amenities necessary to establish the community garden.
- d. Deliverables:
  - a. Infrastructure inventory and installation
  - b. List of materials and quantities used to establish the community garden.
  - c. Operational community garden

**T3a-b: Infrastructure inventory and installation (below)**

**Installation Notes:**

Task	Description	Qty	Cost Each unit	Total Cost	Range
Site Preparation:	Depends on condition of land, raised beds can avoid contaminated soil issues.				
Boundary Survey			250 - 300		Depends on location, zoning
Water:					
Meter	Depends on site, if required	1	\$ 4,200.00	\$4200.00	Includes manhole & Tap
Irrigation Plan / Backflow inhibitor	Again, depends on layout, water needs, sophistication of your end growing objectives.	1	3349.15	3349.15	Irrigation plan, backflow preventer & 2 BPS
Temporary Movable Irrigation / Drip Lines		TBD			
Electric:					
Panel and outlets, as required		TBD			
Engineering:					
Drawing (if required)		1			Donated
Permits and Licenses:	Water, Irrigation	1, 1	350	700	
			Total	8249.15	
Raised Beds:					
Construction Supplies	2 x 6 x 16' PT lumber	18	11.67	210.06	
Construction Supplies	4 x 4 x 8' PT lumber	6	7.37	44.22	
Premix concrete for posts	One 80# sack per post	18	4.35	78.3	
Compost	9" deep 384 Sf= 13.5 cubic yards	14	20	280	
Mulch	6" mulch 384sf- 7 cubic yards	7	15	105	
Labor					
			Total	717.58	
Outdoor plots (#1,2,3,4) :					
Mulch (or weed barrier)	9" deep 5800 sf = 161 cubic yards	tbd	26	26	
Compost	Planters soil or compost	80	20	1600	
Railroad Ties	96" long		16.57	1325.60	80 est
Weed kill Tarps	32'X105'	3	229	687	
Equipment Rental	Tractor w/end loader, 40 hours		TBD		
Labor	Man hours	120			
			<b>Total</b>	2329.57	
We put in 18 boxes. Lumber / Boxes					
Each box had 1 pallet x 18 = \$180		18	\$100	1800	
Each box had 2 collars x \$100 X 18		36	100	3600	
Each box had some plastic filter/lining donated by Drew/Big Tex.					
Each box has soil delivered in bulk.					
Each box had labor.			180	180	
			<b>Total</b>	\$5,400.00	
Raised Beds:					
Construction Supplies	2 x 6 x 16' PT lumber				

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Construction Supplies	4 x 4 x 8' PT lumber				
Premix concrete for posts	One 80# sack per post				
Compost	9" deep 384 Sf= 13.5 cubic yards				
Mulch	6" mulch 384sf- 7 cubic yards				
Labor	180				
Startup Supplies:					
Small Tools					
Hand shovel, small		8	8	64	
Hand aerators, 4'		8	20	160	
Hand aerators, 10"		8	8	64	
Shovel, round tip , Arg		8	20	160	
Pitch Fork, Lrg.		3	33	99	
Garden Hoe, Regular		8	15	120	
Hose, HD 100'		4	50	200	
Hand Sprinkler		6	25	150	
Ground Sprinkler		5	25	125	
Spray Cannister, 2 - 3 gal.		4	20	80	
Hand tool box, Lrg.		1	100	100	
Small tool set (pliers, etc)		1	200	200	
Electric drill and bits		1	100	100	
			Total	1622	

Office, Storage, Refrig. Facility:		TBD			
Foundation (if necessary)		TBD			
40'x8' container farm or similar		TBD			
HVAC		TBD			
Electrical		TBD			
Refrigeration Unit(s)		TBD			
Plumbing		TBD			
Furniture and fixtures		TBD			



### T3d3: Operational Community Garden

<https://www.dallasnews.com/news/2019/12/15/urban-farm-sprouts-on-unused-dart-property-beside-south-dallas-station/>





### ***Long-Term Site Design Vision***

To the casual observer it doesn't appear much has been completed at the Farm. However, several important aspects have been completed or are in progress as a result of the NCTCOG and DART grant. The grant has allowed us to the following things:

- Finish the laborious process of securing water for the property which included (hiring a plumbing company, hiring a certified Irrigator, securing a certified Irrigation Plan and three different permits from the City of Dallas)
- Establish the early adopter community grow box program which includes 20 two tier (collars) grow boxes for community training and use, purposes
- Hold a community soft launch in which the vision and purpose was shared with both City and County officials as well as over 40 community members.
- Prepare the soil for both in-ground planting and for the construction of the Hoop House
- Gravel delivered in preparation of soon-to-be delivered shipping container tool shed
- Mulch has been purchased
- Seedlings are being planned for, identified and some are being germinated for winter planting in the community boxes
- Several hand tools have been purchased.



#### ***Task 4: Operations and Maintenance:***

T4a: See Task 2a

T4b-c: Beautification License Agreement Attached in Separate Document

#### **T4d: Operations and Maintenance General Best Practices: (draft)**

Production management for a farm involves maximizing the food crops that can be produced on a piece of land in order to meet the objectives of the operational strategy, in terms of the type, amount, and quality of crops that are to be produced, and the profitability of those crops.


1. What approach will be used for crop production (See HSCGTF Grow Methods Task 2)?
  - a. First the mobile raised Beds System and Second the Row & Swell method.
  - b. Crop production techniques will be developed with the assistance of Texas A&M Agrilife and other local experts
  - c. In addition to crop production facilities, an additional container will placed on site to house tools and other storage needs.
  - d. There will be a hoop house constructed in the center of the property to serve as year-round growing space, a nursery to germinate and place in 4" pots the selected seasonal seedlings.
2. What crop management alternatives will be implemented (e.g., weed, pest and disease control)?
  - a. All crop production will use organic growing methods to meet the criteria of a certified organic crop production facility. Organic pest management practices will be implemented to develop and maintain healthy soils and strong plants that can withstand pests and encourage beneficial insects by creating environments that attract them. Crop selection will focus on biodiversity in the crops and crop varieties that are resistant to pests and diseases. Selected approved substances will be used when necessary.
  - b. Maintenance for Hatcher Farm ;
  - c. Regular Lawn Care Maintenance once a month.
  - d. Keeping debris cut off fence line.
  - e. Trash pickup in \ out of property.
  - f. Keep all trees manicured that exist on property.
  - g. All Garden / flower bed areas will be maintained day to day.
    - i.
3. How will soil fertility be addressed (e.g., enhance existing soils, compost, mulch, fertilizer)?
  - a. Organic materials such as cover crops, crop residues, and compost will be added to soils to build soil organic matter and improve the ability of the soil to supply nutrients to the plants. It is anticipated that composting will be conducted on the growing center.
4. What type of water supply (e.g., city water, well) and irrigation system will be used (e.g., tile drains, drip zone irrigation, sprinkler systems)?
  - a. Water is supplied by the municipal water system. Plant irrigation will initially be accomplished by hand watering using a water spigot, hose and nozzle. Once there is a better

understanding of the quantities of water needed other methods of watering such as drip irrigation will be evaluated.

5. Will seeds or seedlings be used? How will seed and plant selection be accomplished?
  - a. Seeds and seedlings will be obtained from on premise germination / growth and from our feeder seedling farm at the MLK Center.
6. What waste handling and disposal will be required and how will it be accomplished?
  - a. Organic waste such as crop residues will be composted on the site. Recyclable materials such as plastics, paper, and cardboard will be recycled. Extra crops that are not sold will be donated to community food centers. Disposal wastes will be minimized.
7. What quality control measures will be needed?
  - a. Container office and Storage Container will be maintained according to farm and city operational Standards.
  - b. All farm properties, Tools and Machinery will be inventoried every 45 days.
  - c. Greenhouse will be cleaned and Sanitized once every 90 days.
  - d. Plants will be sprayed for insects as needed with a organic insecticide soap.
  - e. All fans and Heaters will be cleaned every 90 days.
  - f. Water catching system will be constantly monitored and Sanitized at the end of every season.
  - g. Stationary compost collection will be monitored for preparation, intake , outtake and usages .
  - h. Water and SOIL SAMPLES will be performed every 4 - 6 months and immediately upon opening for full operations.
8. . How will security for the property, equipment, and crops be accomplished (e.g., fencing, cameras)?
  - a. all fence and gates will be maintained and checked for security and maintenance purposes.
  - b. The property is fenced around its perimeter. An access gate for vehicles to enter the site and walk gates for customers and workers to enter the site. Identify any other crop management issues (itemize)? No other issues are identified at this time.

**Sample Site  
 Management  
 Worksheet**

Additional  
 Worksheets and  
 documentation will  
 be added

 *Harvesting Incident Report  
 12/18 thru 2019*

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Time
Water all rows and flower bed, w/ trees	Water all of the veg. rows	Water all rows and flower beds	Water all rows of vegetables	Water all veg. rows and flower beds	Trash pick up	Trash pick up	7:30 9:30 AM
Pull all weeds from veg. rows	Pull all dead off of veg. plants	Harvest at discretion of garden manager	Pull all dead off of plants and aerate all vegetable plants and flower beds	Harvest as discretion of garden manager	Water very lightly if necessary	Watering is discretionary	2-3 PM
Trash pick up	Clean/pull weeds from all flower beds	Trash pick up	Trash pick up				
	Trash pick up						

Notes: The garden manager will assist in training volunteers to proceed with the above maintenance of crop and flowers. The garden manager will administer all chemicals applied to garden area and he will assist and coordinate all harvest days and times. All garden equipment must be used properly and be accounted for upon usage. All vegetables harvested for facility kitchen must be documented by garden manager and facility food service.

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Draft Manual Outline:

Soil & Crop Fertility Management

- General Soil Types & Location
- Major Components of Crop & Soil Fertility Management Program
- Methods for Monitoring

Effectiveness of Program - Seeds & Seedling Production

- Sources, Suppliers, & Specifications
- Materials Needed (Soil Mix, Fertilizers, & other Inputs)
- Aquaponics Specifications
- Greenhouse Specifications
- Watering System
- Other Season Extension
- Greenhouse Crop/Seedling

Insect & Disease Control

Crop Rotation Plan

- Describe

Cover Crop/Green Manure Use

- Describe

Compost Use

- On-Farm Materials to be composted
- Method of Composting
- Uses for Compost
- Potential Problems

Manure Use

- Source & Type (On-Farm or Off Farm, Species)

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- Treatment, if Any Before Use

(Composting, Tea)

- Uses for Manure
- Potential Problems

Additional Soil Amendments to Use

- Describe

Tilling, Preparation & Cultivation Practices

- List Practices
- Machinery/Equipment Needed

Water Use

- Describe Needs
- Sources
- Water Quality Protection Practices

Weed Management Summary

- Monitoring & Identification of Weeds
- Issues
- Strategies to be used

Insect & Pest Management Summary

- Anticipated/Expected Pests
- Monitoring & Identification of Pests
- Economic Threshold
- Strategies for Control

Disease Management Summary

- Anticipated/Expected Problems
- Disease Monitoring & Identification

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- Strategies for Prevention/Treatment

#### Natural Resources Management

- Soil Conservation Practices to be used
- Practices to Minimize Soil Erosion

#### Harvest & Storage

- Methods
- Facilities/Equipment
- Processing or Transportation Concerns

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